We Claim:

1. A composition for the correction of a mutated dystrophin gene comprising an oligonucleobase having both ribo-type and deoxyribo-type nucleobases, which oligonucleobase comprises:

a) a first and a second homologous region that are each at least eight nucleobases in length and together at least 20 and not more than 60 nucleobases in length, in which the homologous regions are, respectively, homologous to a first fragment and a second fragment of an exon of human dystrophin or of such exon and its 5' or 3' flanking intron, in which each homologous region comprises at least three nucleobases of hybrid-duplex, and

b) a heterologous region that is disposed between the first and second homologous region;

wherein the composition is effective in correcting the mutated dystrophin gene in at least some muscle cells by *in vivo* administration.

2. The composition of claim 1 further comprising a lipid effective in introducing the oligonucleobase into at least some muscle cells by *in vivo* administration.

3. The composition of claim 2 which consists essentially of the oligonucleobase and FUGENE™ 6 lipid.

4. The composition of claim 1, wherein the oligonucleobase is linked by a covalent linker to a ligand that targets the oligonucleobase to a muscle cell.

5. A method of correcting a mutation in the dystrophin gene of muscle tissue in an affected subject, which comprises:

providing a composition comprising an oligonucleobase having both ribo-type and deoxyribo-type nucleobases, which oligonucleobase comprises:

a) a first and a second homologous region that are each at least eight nucleobases in length and together at least 20 and not more than 60 nucleobases in length, in which the homologous regions are, respectively, homologous to a first fragment and a second fragment of the dystrophin gene of the subject, which fragments

are each adjacent to the point mutation, and in which each homologous region comprises at least three nucleobases of hybrid-duplex, and

b) a heterologous region that is disposed between the first and second homologous region; and

administering to the subject an amount of the composition that is effective *in vivo* to correct the mutation in at least some muscle cells of the subject.

6. The method of claim 5, wherein the composition further comprises a lipid effective in introducing the oligonucleobase into at least some muscle cells by *in vivo* administration.

7. The method of claim 6, wherein the composition consists essentially of the oligonucleobase and FUGENE™ 6 lipid.

8. The method of claim 5, wherein the first and second fragment are fragments of an exon of the dystrophin gene or of such exon and the 3' or 5' flanking intron of the exon.

9. The method of claim 5, wherein the composition is administered to the subject by intra-muscular injection.

10. The method of claim 5, wherein the oligonucleobase is linked by a covalent linker to a ligand that targets the oligonucleobase to a muscle cell.

11. The method of claim 5, wherein the subject is canine or murine.

12. The method of claim 5, wherein the subject is a human and the mutation is corrected in somatic cells without effecting the germline.

13. A method of correcting an inherited or acquired mutation in affected cells of a subject, which comprises:

providing a composition comprising an oligonucleobase having both ribo-type and deoxyribo-type nucleobases, which oligonucleobase comprises:

a) a first and a second homologous region that are each at least eight nucleobases in length and together at least 20 and not more than 60 nucleobases in length, in which the homologous regions are, respectively, homologous to a first fragment and a second fragment of a gene with the inherited or acquired mutation, and in which each homologous region comprises at least three nucleobases of hybrid-duplex, and

b) a heterologous region that is disposed between the first and second homologous region; and

administering to the subject an amount of the composition that is effective *in vivo* to correct the mutation in at least some cells of the subject's affected tissue.

14. The method of claim 13, wherein the composition further comprises a lipid effective in introducing the oligonucleobase into at least some muscle cells by *in vivo* administration.

15. The method of claim 14, wherein the composition consists essentially of the oligonucleobase and FUGENE™ 6 lipid.

16. The method of claim 13, wherein the first and second fragment are fragments of an exon of the dystrophin gene or of such exon and the 3' or 5' flanking intron of the exon.

17. The method of claim 13, wherein the composition is administered to the subject by intra-muscular injection.

18. The method of claim 13, wherein the oligonucleobase is linked by a covalent linker to a ligand that targets the oligonucleobase to a muscle cell.

19. The method of claim 13, wherein the subject is canine or murine.

20. The method of claim 13, wherein the subject is a human and the mutation is corrected in somatic cells without effecting the germline.